PB87-202420

Hazardous Waste Incineration Permitting Study

(U.S.) Environmental Protection Agency
Washington, DC

Aug 86

U.S. Department of Commerce
National Technical Information Service
NTIS

PB87-202420

United States
Environmental Protection
Agency

Office of
Solid Waste and
Emergency Response

EPA

DIRECTIVE NUMBER: 9488.00-6

TITLE: Hazardous Waste Incineration Permitting Study

APPROVAL DATE:

EFFECTIVE DATE:

ORIGINATING OFFICE: Office of Solid Waste

☒ **FINAL**

☐ **DRAFT**

STATUS:
[ ] A- Pending OMB approval
[ ] B- Pending AA-OSWER approval
[ ] C- For review &/or comment
[ ] D- In development or circulating headquarters

REFERENCE (other documents):

OSWER OSWER

DIRECTIVE DIRE

REPRODUCED BY
U.S. DEPARTMENT OF COMMERCE
NATIONAL TECHNICAL
INFORMATION SERVICE
SPRINGFIELD, VA 22161

NTIS

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO.	2.	3. Recipient's Accession No. PB87 202420/AS
4. Title and Subtitle: Hazardous Waste Incineration Permitting Study			5. Report Date: August 1986
			6.
7. Author(s): U.S. EPA Staff			8. Performing Organization Rept. No.
9. Performing Organization Name and Address: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, 401 M Street, S.W., Washington, D.C. 20460			10. Project/Task/Work Unit No.
			11. Contract(C) or Grant(G) No. (C) (G)
12. Sponsoring Organization Name and Address: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, 401 M Street, S.W., Washington, D.C. 20460			13. Type of Report & Period Covered: Final
			14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

Section 3005 of the Hazardous and Solid Waste Amendments of 1984 requires that the Administrator issue a final permit or denial by 1989 for all existing (interim status) incinerator facilities. This document presents results of a study designed to evaluate incinerator permitting priorities, determine permitting timelines, identify issues influencing the incinerator permitting process and alternatives for problem resolution, and provide an accurate accounting of hazardous waste incineration facilities.

17. Document Analysis a. Descriptors

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report)	21. No. of Pages
Release Unlimited	Unclassified	
	20. Security Class (This Page) Unclassified	22. Price

(See ANSI-Z39.18)

See Instructions on Reverse

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

ATTENTION

AS NOTED IN THE NTIS ANNOUNCEMENT, PORTIONS OF THIS REPORT ARE NOT LEGIBLE. HOWEVER, IT IS THE BEST REPRODUCTION AVAILABLE FROM THE COPY SENT TO NTIS.

OSWER POLICY DIRECTIVES

9488.00-6

HAZARDOUS WASTE INCINERATION PERMITTING STUDY

U.S. Environmental Protection Agency
Office of Solid Waste
Permits and State Program Division
401 M Street, S.W.
Washington, D.C. 20460

August 1986

TABLE OF CONTENTS

		Page
Summary		1
I.	Introduction	4
II.	Method of Approach	4
III.	Results of Data Verification	6
IV.	Study Findings and Recommendations	18
V.	Implementation Planning	26

Attachment I: Permitting Study Questionnaire

Attachment II: List of Incinerator Facilities

Attachment III: Data Base Format

Attachment IV: Permitted New Facilities

Attachment V: Permitted Existing Facilities

Attachment VI: Commercial Incinerators

Attachment VII: Differences of Commercial Facilities Between HWDMS and Incinerator Database

Attachment VIII: Facilities Whose Part B's Not Received

Attachment IX: Exempt Facilities

Attachment X: Closed or Closing Facilities

ACKNOWLEDGEMENT

The authors wish to acknowledge the assistance of the Regional and State permit writers whose efforts led to the completion of this document. Special appreciation is given to Betty Willis and Region IV staff who provided valuable assistance in evaluating the questionnaires used in the study.

SUMMARY

Reproduced from best available copy.

The Hazardous and Solid Waste Amendments (HSWA) of 1984 require the Environmental Protection Agency to promote the issuance of permits to facilities that provide alternatives to land disposal. Section 3005 of HSWA requires that the Administrator issue a final permit or denial by 1989 for all incinerator facilities having interim status at the time of HSWA enactment. Interim status shall terminate for all incinerator facilities in existence at the time of HSWA enactment if their Part B permit applications have not been submitted by November 8, 1986.

The Permits Branch in the Office of Solid Waste initiated this study to assess the current status of the hazardous waste incineration permitting process. The study was designed to evaluate incineration permitting priorities, determine the length of time associated with the permitting process, identify issues influencing the process and alternatives for problem resolution, and provide an accurate accounting of hazardous waste incineration facilities. No attempt was made to determine incineration capacity.

The information base for this study was obtained during the Autumn of 1985 by means of a questionnaire survey of Regional and some State permit writers and through data verification of selected information contained in the EPA Hazardous Waste Data Management System (HWDMS). The data show that there are 235 hazardous waste incinerator facilities which will require RCRA permits. Of these, 223 will be required to conduct trial burns to demonstrate performance. Only 25 have been permitted to date. Of the total number of incinerator facilities, 27 are commercial facilities (i.e., facilities which treat off-site customer wastes), and 93 are associated with land disposal. The facilities are unevenly distributed across the country: 28 percent of all incinerator facilities are located in Region VI and 37 percent of all commercial incinerator facilities are located in Region IV. The Regions identified 12 facilities which are seeking the exemption for ignitable, corrosive and reactive wastes. Another 39 facilities are expected to close or have closed already.

The study indicates that incinerator permitting is proceeding as rapidly as possible considering the technical complexities of the process. The average permit processing time for new and existing (i.e., interim status) facilities is 430 and 729 days, respectively. These figures are consistent with the process timeline developed jointly by permit writers for this study. The time difference between new and existing incinerators is attributed to the fact that the trial burn occurs after permit issuance for a new incinerator and before permit issuance for an existing incinerator.

It is recognized that the study findings and HWDMS are in disagreement. For example, as of July 1988, HWDMS indicates there are 352 incinerator facilities while the study indicates 274 (235 requiring permits and 39 closing). Activities are ongoing to resolve these discrepancies.

Permit processing times of one to two years cannot be significantly reduced under the present regulations. Current regulations impose performance-based operating standards which must be established through a lengthy trial burn procedure. Regulatory changes specifying standard operating conditions for given facility types rather than performance-based standards (thus eliminating the need for a trial burn) would be necessary to improve upon the minimum timeframes associated with performance-based standards. Since regulatory changes of this nature would take a minimum of two years to be approved and promulgated, it seems highly unlikely that prospective regulatory changes will assist the Agency in meeting its HSWA deadline for permit issuance.

The study indicates that the time required for permit issuance may actually increase in the future. The reasons given by Regional permit writers for the expected increase include: increased workload demand associated with the HSWA deadline of 1989; the type of facilities under review (commercial facility applications take longer to process due to the complexity of the trial burn and the likelihood of public concern); requests for variances (e.g., boiler variance); and the difficulties associated with trial burn data review. Furthermore, permitting timeframes may be extended in those Regions which called Part Bs before they were ready to process them in order to weed out facilities which planned to close.

The Regional and State permit writers indicate that high priority is placed on the processing of commercial facility permits. However, on the average, only one commercial incinerator permit has been issued per year. Frequently, land disposal facilities (both commercial and private) have supplanted incinerator commercial facilities as the top priority. Permit writers believe that the Agency's highest priority remains on land disposal. Further, many Regional permit writers feel that incineration, both commercial and private, is not a high priority because the 1986 Strategic Planning and Management System (SPMS) provides no performance targets for permitting incinerators.

Secondary emphasis on incinerator permitting is one factor extending the time period required to complete the process. Other major factors are the relatively high turnover among

permit writer staff and facility-caused delays associated with requests for exemptions or lack of cooperation. The change-over in permitting staff is particularly serious due to the highly technical nature of the review process. High turnover is attributed to lack of advancement potential and flight to Superfund.

Although significant gains in permit processing cannot be achieved in the current regulatory context, actions can be taken to ensure that projected increases in permitting time are minimized and to ensure that the permits issued are of high quality and reflect national policy. To achieve these objectives, this study concludes that a series of guidance documents and models should be developed and disseminated (see Section V). Established training courses should be offered on a routine basis to assure that permit writers at all levels are given the opportunity to upgrade their skills.

Improvements may also be achieved if Headquarters establishes a higher priority on permitting incinerators. Performance targets must be clearly articulated in SPMS in order to assure the necessary resource allocations.

Finally, action needs to be taken to maintain EPA's current expertise in incineration. Such action could include providing greater advancement potential and achievement recognition for RCRA permit writers.

HAZARDOUS WASTE INCINERATION PERMITTING STUDY

I. INTRODUCTION

The Hazardous and Solid Waste Amendments (HSWA) of 1984 require the Environmental Protection Agency to promote the issuance of permits to facilities that provide alternatives to land disposal, such as commercial incineration facilities. The RCRA National Permit Strategy was revised in July 1985 to reflect this new mandate.

To ensure that the goals of the National Permit Strategy and HSWA are met, the Permits Branch in the Office of Solid Waste requested that A. T. Kearney assist them in conducting a study during Autumn 1985 to evaluate the hazardous waste incineration permitting process.
The primary objectives of this study were to provide:

- An accurate listing of the universe of hazardous waste incinerators, including those associated with land disposal, and their permitting status;
- An evaluation of the priority which the permitting authorities (Regions and States) are placing on commercial incinerators and increased treatment capacity; and
- An identification of issues influencing the permitting process and suggestions for resolving those issues.

The following report provides a summary of study methods, findings, and suggestions for improvement.

II. METHOD OF APPROACH

The Hazardous Waste Incineration Permitting Study was organized into three parts: development of the questionnaire, verification of data, and analysis of the information collected.

A. Development of the Questionnaire

The subject matter of this study is both technically and administratively complex. It was decided to develop a standardized questionnaire which would be used to poll Regional and

Reproduced from best available copy.

State personnel to ensure consistent questions were being asked. The draft questionnaire was organized to address both region-wide and facility-specific concerns associated with the incinerator permitting process. Accordingly, it was divided into two major sections.

Part I was made up of a series of management-oriented questions in order to determine the Region's overall approach to incinerator permitting. It included questions concerning the Region's process for permitting and its policies regarding new capacity (especially commercial).

Part II was directed at designated facilities and raised questions relating to the specific situation of the facility under discussion during each phase of the permit issuance process. Its purpose was to uncover the technical issues which arose during permit issuance, the types of technical assistance sought by the individual permit writer, and specific problems relating to the trial burn.

The questionnaire was sent to Region IV, where it was field tested. The purpose of the field test was to assess the effectiveness of the questionnaire and to determine if any changes would be necessary to elicit the type of information required to achieve study objectives.

The field team used both parts of the questionnaire. The first part was discussed with Betty Willis, the Region IV incineration contact. The second part of the questionnaire was used to discuss four individual facilities with the responsible permit writers.

The field team determined that with a few modifications, the questionnaire was appropriate to use in the study. Attachment I is a copy of the questionnaire. The questionnaire was then sent to each of the Regional incineration contacts along with a list of several facilities proposed for the Part II interviews. The proposed facilities were selected based on information in the Hazardous Waste Data Management System.

Attachment II provides the list of facilities which were selected for the study. Selection criteria were: commercial facilities, incinerators at facilities with land disposal, federal facilities, and facilities which have either a draft or final permit. The review team called each of the incineration contacts and confirmed or revised the list of facilities to be reviewed, obtained the names and phone numbers of the permit writers responsible for the selected facilities, and then interviewed each permit writer.

B. Verification of Data on the Universe of Hazardous Waste Incinerators

The review team prepared a data verification form to be used to determine the actual universe of incinerators in the United States and to verify the information about those facilities which is contained in the Hazardous Waste Data Management System (HWDMS). A form was prepared for each incinerator facility and sent to the Regions for verification. Blank forms were also provided so that the Regions could complete them for facilities not already identified. Attachment III is a copy of a blank form and the instruction sheet for completing the form. The data from these forms was loaded onto a micro computer to allow for easy manipulation and access and the floppy disk containing the information was provided to EPA.

C. Analysis of Information

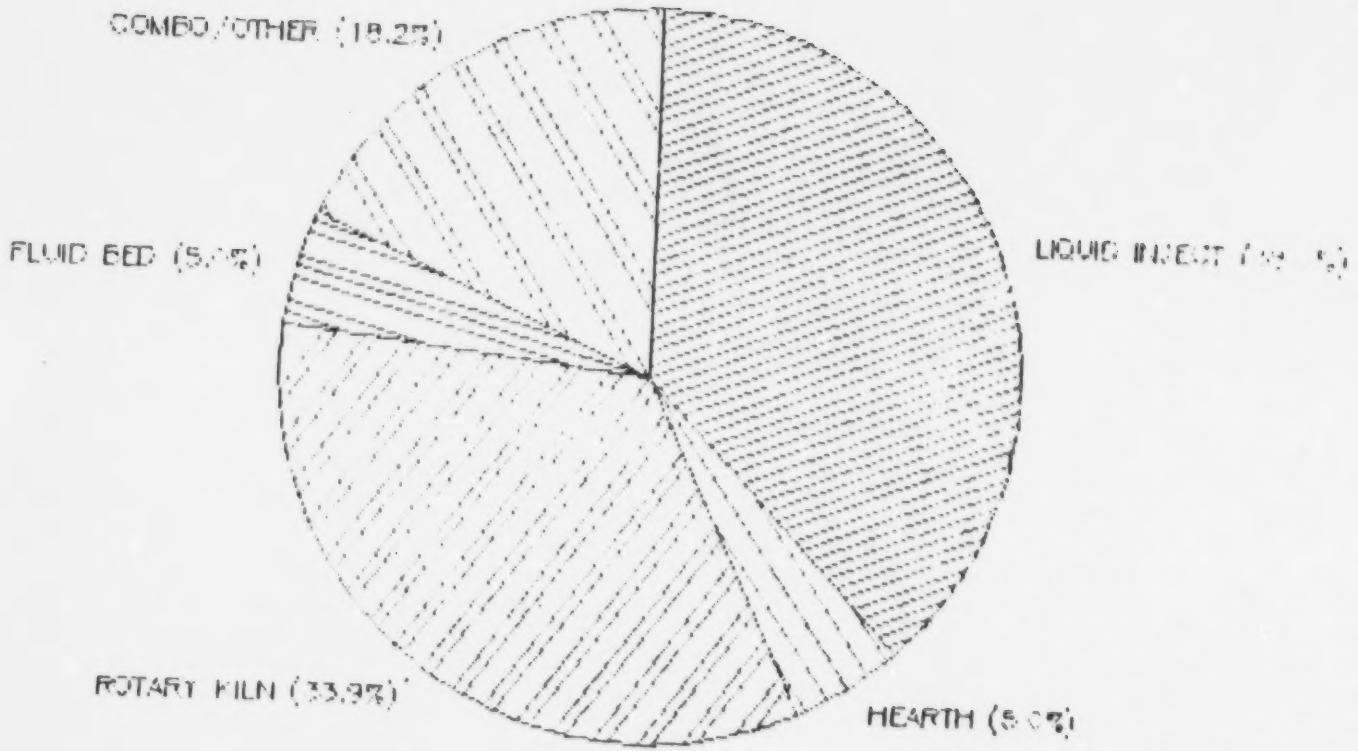
The information for the study was not collected, nor is it presented, on a statistical basis. The interviews were subjective recountings of facilities' history from personal memory or from what had been noted by a previous permit writer. The interviewees identified examples of major technical and administrative problems encountered during the application review and offered suggestions for improvements. These analyses are based solely on the information provided by the interviewees. No independent verification of the data was attempted by A. T. Kearney or EPA's Office of Solid Waste.

III. RESULTS OF DATA VERIFICATION

The data show that there are 235 facilities with incinerators which will be permitted under RCRA. Of these 12 facilities are seeking the exemption under Section 264.343 for burning wastes which are solely ignitable, corrosive, or reactive. In addition, the Regions identified 39 facilities which have closed or will be closing. Attachments IX and X provides lists of exempt and closing facilities, respectively.

The distribution of incinerator types is presented in Figure 1. Among facilities for which this information is known, 38 percent are liquid injection and 34 percent are rotary kilns.

TYPES OF INCINERATORS



9 S S . S

Of the 223 facilities which have hazardous waste incinerators subject to the performance-based permits, 93 incinerator facilities are associated with land disposal and 27 are commercial facilities. The number of facilities is less than the number of incinerators since facilities may have more than one incinerator; this study did not determine the number of incinerators.

The incinerator facilities are unevenly distributed across the nation (Figures 2 and 3). Region VI accounts for 28 percent of all hazardous waste incinerators and Region IV accounts for 37 percent of all commercial incinerator facilities. More than three-fourths of all incinerators are located in Regions II, III, IV, V, and VI.

The central and western portions of the U.S. appear to be under-represented in the distribution of commercial incinerator facilities. But in the absence of figures comparing regional demand versus available capacity, it is unclear whether or not the relatively sparse distribution of facilities in some regions constitutes a problem.

Listings of permitted new and existing facilities are provided in Attachments IV and V, respectively. A list of all commercial incinerators (i.e., incinerators which treat clients' waste) is provided in Attachment VI.

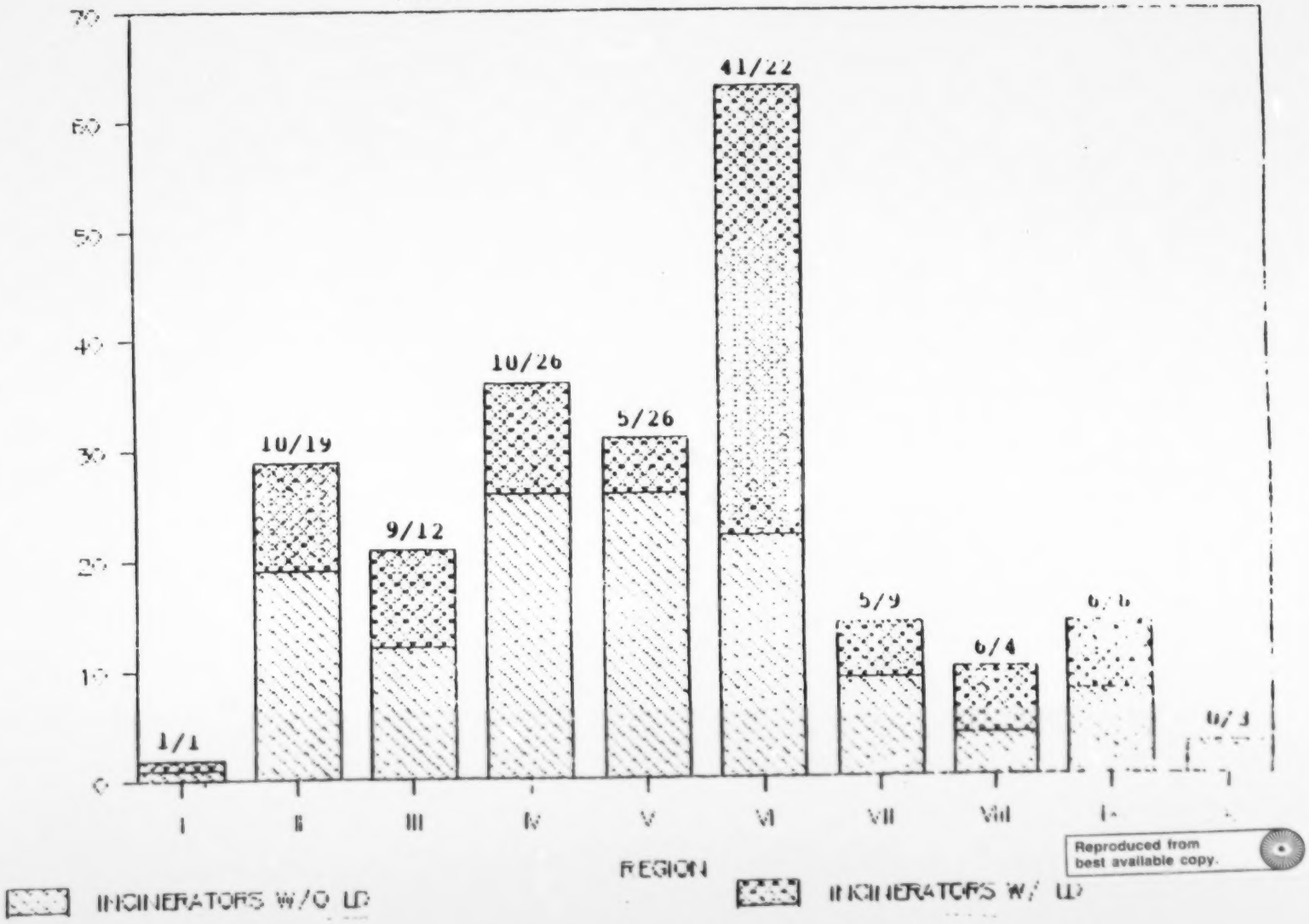
The number of commercial facilities determined to exist in this study does not correlate with the number identified in HWDMS. This study identified three commercial facilities not listed in HWDMS. These facilities include: Olin Corporation in Kentucky, Trane Thermal in Pennsylvania, and Radian Petroleum in Missouri. In addition, HWDMS lists 10 facilities as commercial incinerators when in fact they are not. These facilities are listed in Attachment VII together with an explanation for the discrepancies.

At present, 180, or 81 percent, of all incineration facilities requiring permits have submitted their Part B permit applications. Of the remaining 43 facilities, 20 have not yet had their Part Bs called in. Most of these are located in Region VI (Texas) or in Region III. Both Regions plan to request remaining Part Bs in the near future. Attachment VIII provides the list of facilities for which Part Bs have not been received.

Figures 4 through 7 illustrate the processing time for incinerators which have received a RCRA permit. It is interesting to note that although the number of incinerator permits issued each year is increasing, the percentage of these which are new incinerators is diminishing. This is primarily due to the progress that is being made on existing incinerators.

NUMBER OF INCINERATORS PER REGION

(WITH AND WITHOUT LAND DISPOSAL UNITS)



Reproduced from best available copy.

Note: The numbers above the bar indicate facilities with and without land disposal, respectively.

Figure 3

NUMBER OF INCINERATORS BY REGION

Region	Incinerators	Incinerators With Land Disposal	Incinerators Without Land Disposal	Commercial Incinerators
I	3	1	2	0
II	35	11	24	5
III	21	9	12	1
IV	36	10	26	10
V	31	6	29	6
VI	63	41	22	4
VII	14	5	9	1
VIII	10	6	4	0
IX	14	6	8	1
X	4	0	4	1
TOTAL	235	95	140	29

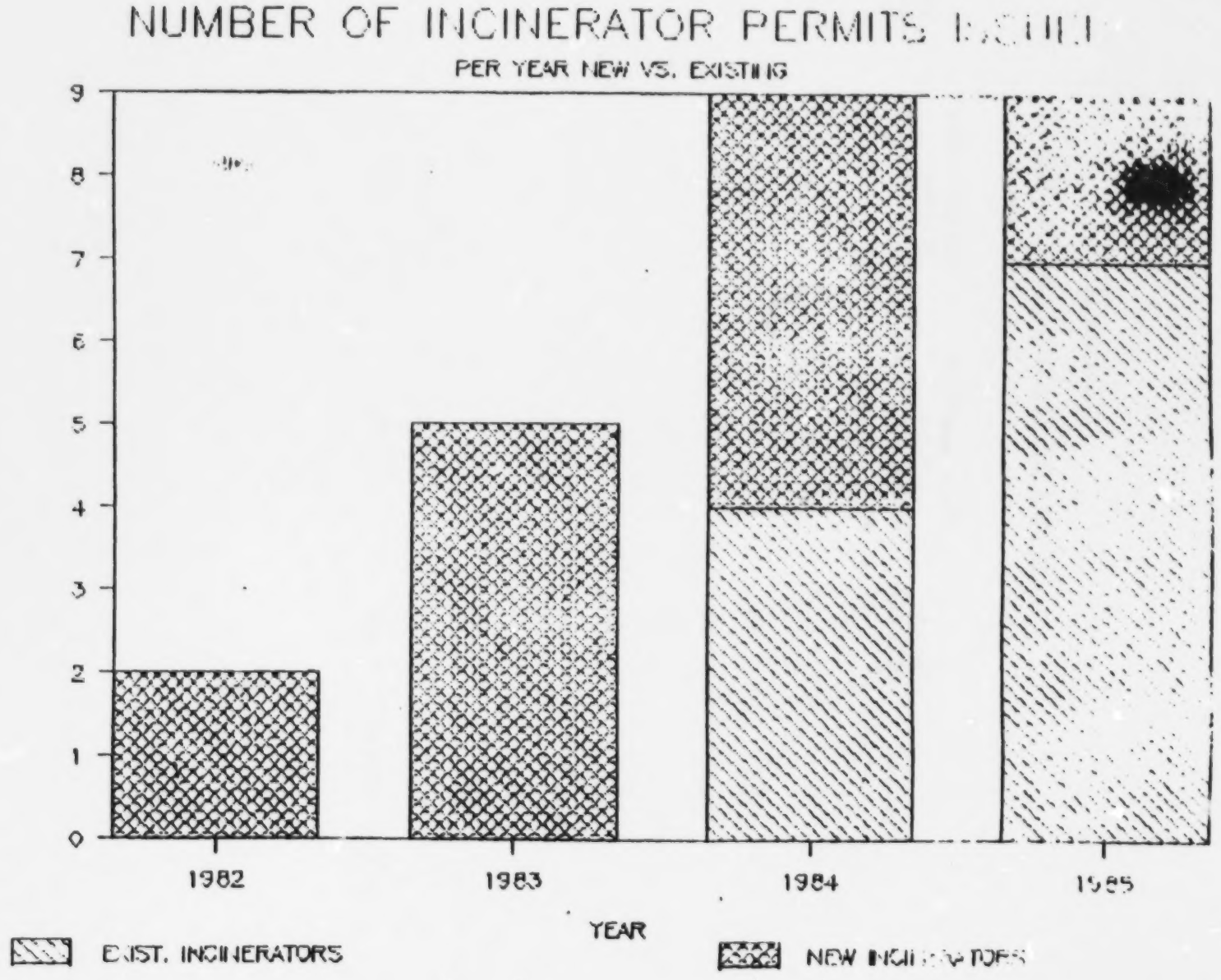
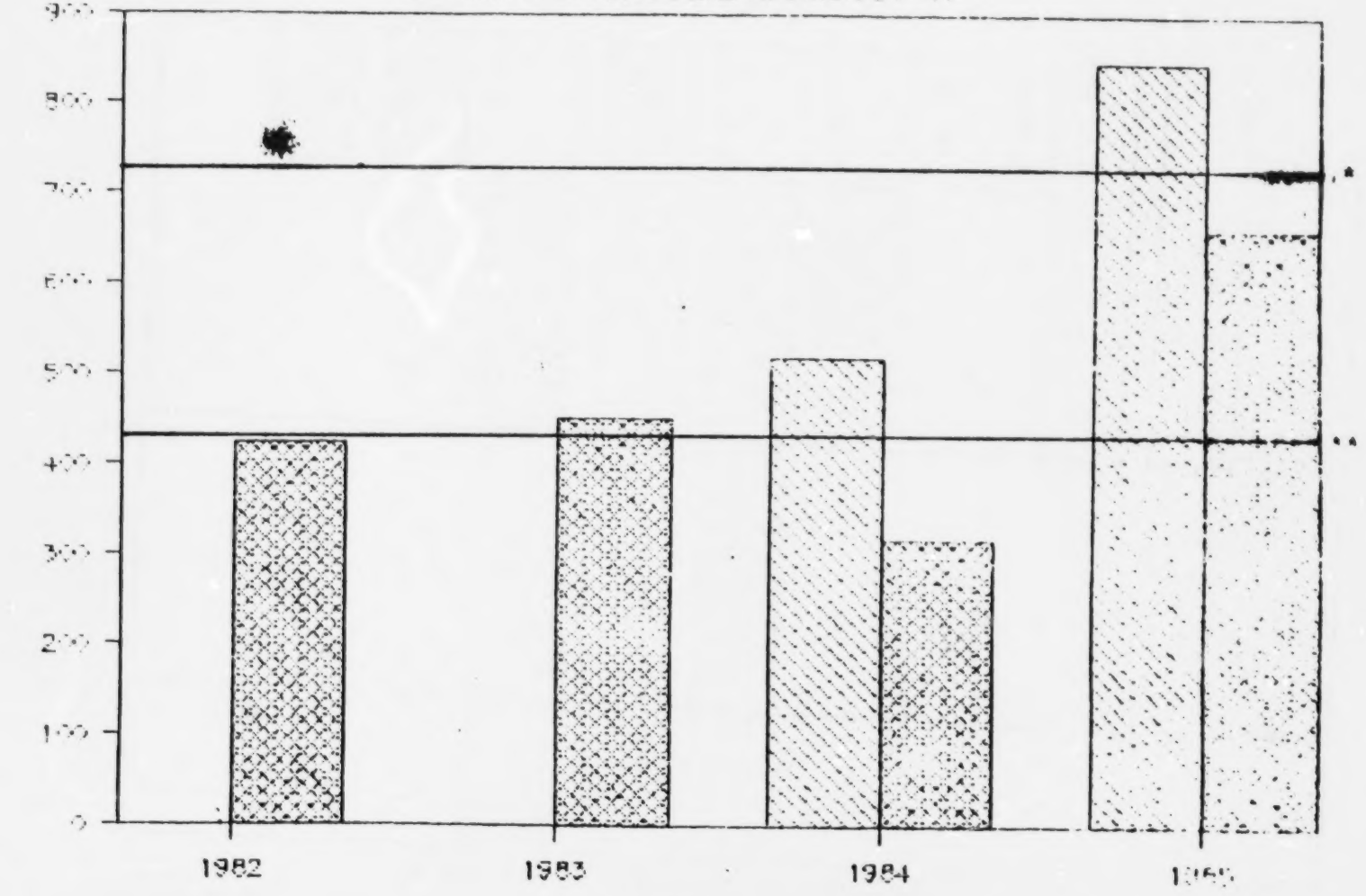

NUMBER OF INCINERATOR PERMITS
PER YEAR NEW VS. EXISTING
NUMBER OF PERMITS
0
1
2
3
4
5
6
7
8
9
1982
1983
1984
1985
YEAR
EXIST. INCINERATORS
NEW INCINERATORS

Figure 4

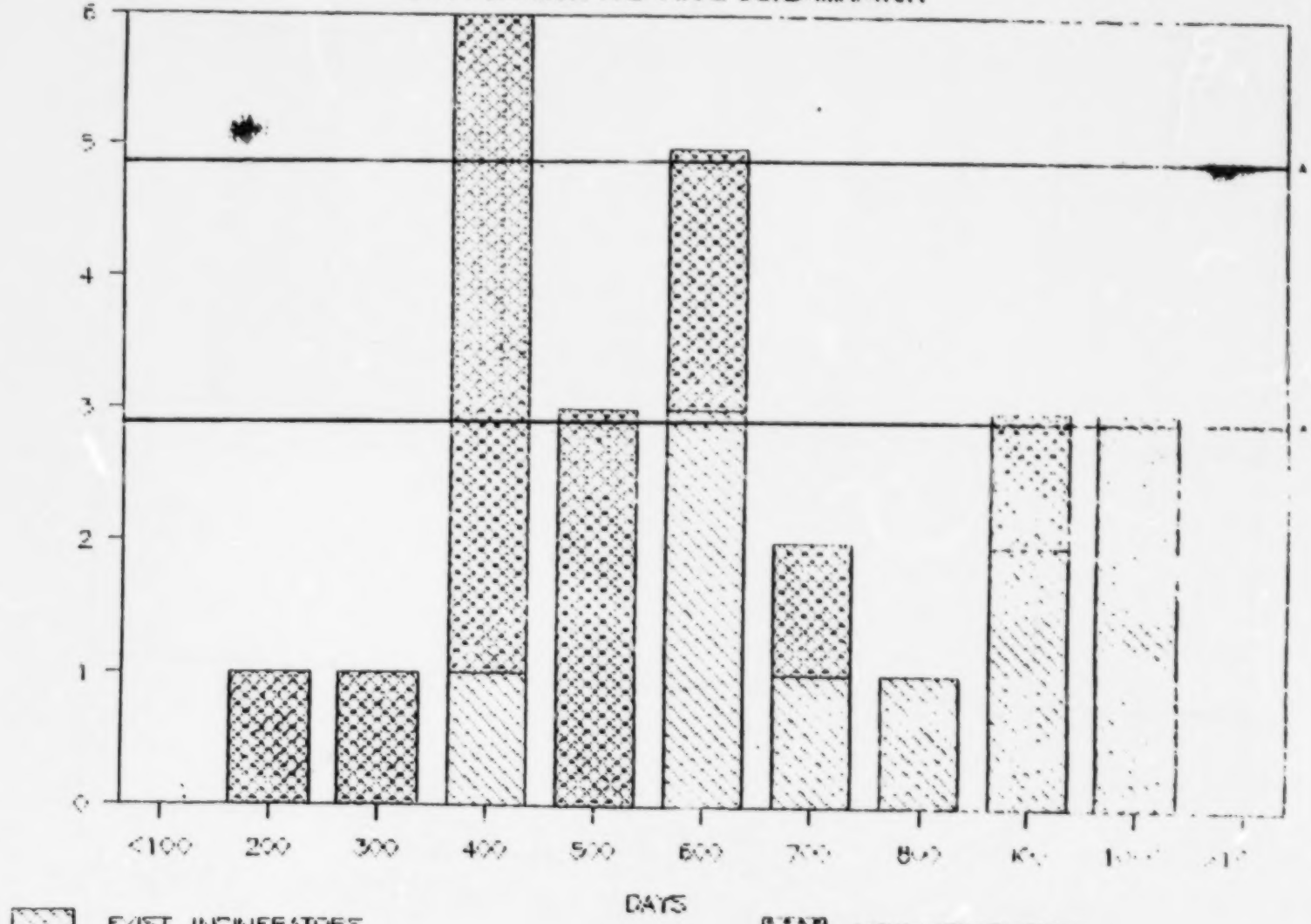
AVERAGE NUMBER OF DAYS BETWEEN RECEIPT

OF PART B & FINAL DETERMINATION BY YR



NUMBER OF DAYS BETWEEN RECEIPT OF PART

B APPLICATION AND FINAL DETERMINATION



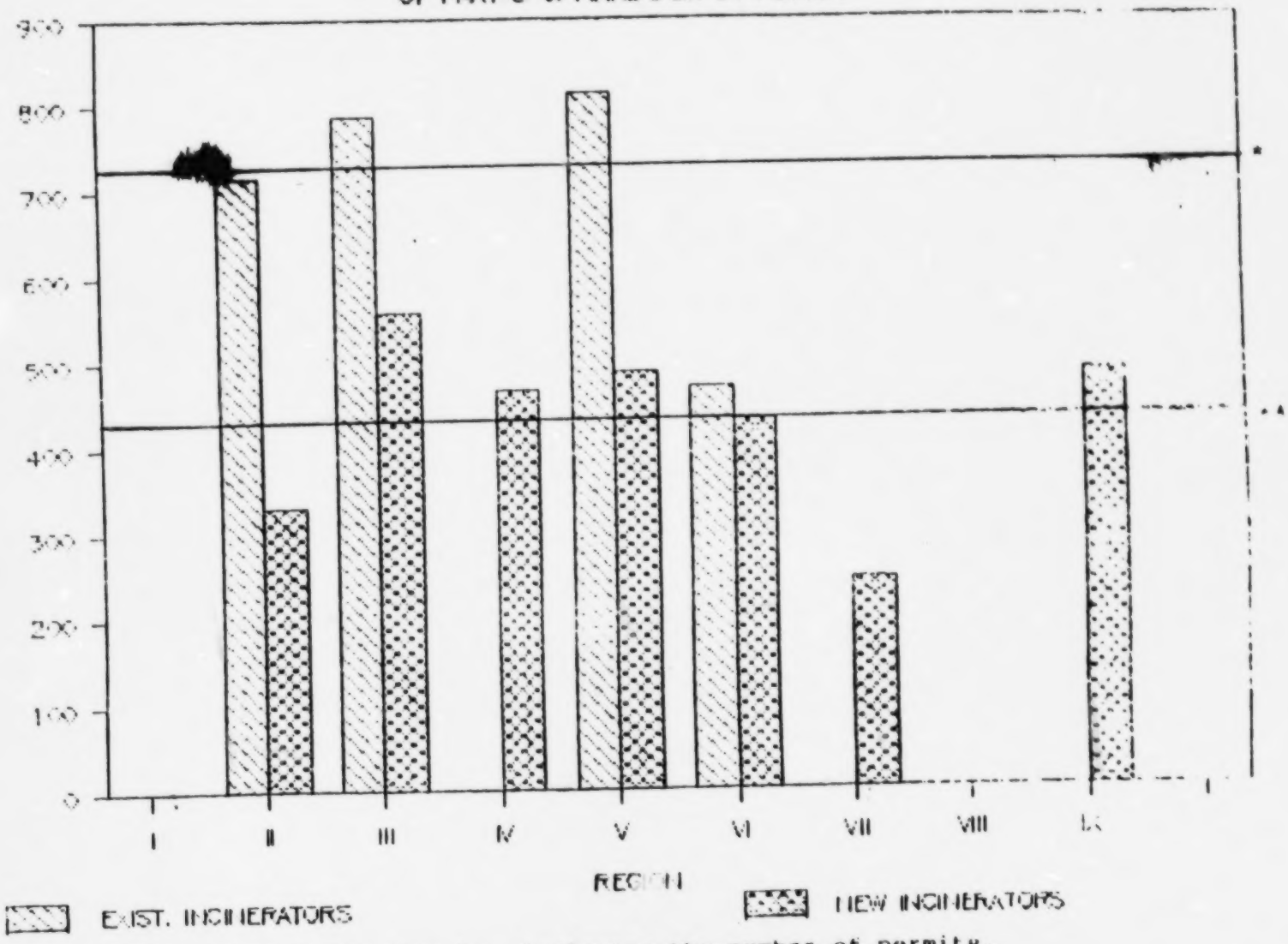
* Average Processing Time -- Existing Incinerators (729 days)

** Average Processing Time -- New Incinerators (430 days)

9488.

AVERAGE NUMBER OF DAYS BETWEEN RECEIPT

OF PART B & FINAL DET. BY REGION



The number above each bar indicates the number of permits.

* Average Processing Time -- Existing Incinerators (729 days)

** Average Processing Time -- New Incinerators (430 days)

The time necessary to issue permits is lengthening. Many of the permits which are currently being issued are those which have been difficult to process and are only now receiving permits. This effect will be more pronounced in the future because some regions chose to call in the Part Bs at an earlier date than others in order to weed out those facilities which planned to close.

Figures 8 and 9 are estimates developed by Regional and Headquarters staff for processing "typical" permits under various scenarios. The average time to issue a permit based on experience to date is stet days for a new incinerator and 729 days for an existing incinerator. The averages compare well with the joint Regional/Headquarters staff estimates of 435 days for a new incinerator and 700 days for an existing incinerator.

Figure 7 shows the breakdown of average permitting time by Region. Variations in the mix of facilities permitted accounts for most of the variation among regions. On balance, relatively few permits exceeded the average processing times.

EXHIBIT 8

INCINERATOR PERMIT ISSUANCE [illegible] GUIDELINE: New Incinerator

	ACTIVITY	Number of Days*
Scenario #1	1. Submit Part B	0
	2. Agency reviews Part B and prepares NOD	30-60**
Region Issues	3. Applicant response	30
Permit:	4. Agency reviews response and prepares NOD	30-60**
2 NODs, and	5. Applicant response	30
1 request for technical clarification	6. Agency reviews response and prepares completeness letter with a request for technical clarification or NOD	30-60**
	7. Agency drafts permit and begins public notice process	60-90***
	8. Public comment period	45*
	9. Agency responds to public comments and issues permit	60
	TOTAL TIME FROM RECEIPT OF PART B	315-435 days
Scenario #2	7. State prepares draft permit and submits to EPA for review	60-90***
Authorized	7a. EPA reviews draft permit	45
State Issues	7b. EPA and State negotiate conditions	15
Permit	7c. State issues draft permit	5
	TOTAL TIME FROM RECEIPT OF PART B	380-500 days

* Time required for this step is a regulatory requirement.

** Time is based on guidance provided in Section 124.3.

*** Includes allocation of time for technical discussions with applicant regarding permit conditions.

NOTE: Issuance of a RCRA permit for a new hazardous waste incinerator does not guarantee that the incinerator will be available for treating hazardous waste or even that it will be built. Other State and local laws may delay or prevent the construction and operation of the incinerator.

Attach 2

INCINERATOR PERMIT ISSUANCE PROCESS TIMELINE:
Interim Status Incinerator (existing unit)

		ACTIVITY	Number of Days*
Scenario #1	1.	Submit Part B	0
	2.	Agency reviews Part B and prepares NOD	60**
Region Issues	3.	Applicant response	30
two NODs for	4.	Agency reviews response and prepares NOD	60**
application	5.	Applicant response	30
and two NODs	6.	Agency reviews response and approves	30
for trial	7.	Applicant sets up trial burn	30
burn data	8.	Applicant conducts trial burn	10
	9.	Applicant analyses data and prepares report	90*
	10.	Agency reviews report and prepares NOD	60**
	11.	Applicant response	30
	12.	Agency reviews response and prepares NOD	30
	13.	Applicant response	15
	14.	Agency reviews response, prepares and issues draft permit	60-120***
	15.	Public comment period	45
	16.	Agency responds to public comments and issues permit	60
		TOTAL TIME FROM RECEIPT OF PART B	640-700 days
Scenario #2	14.	State prepares draft permit and submits to EPA for review	60-120***
Authorized	14a.	EPA reviews draft permit	45*
State Issues	14b.	EPA and State negotiate conditions	15
Permit	14c.	State issues draft permit	5
		TOTAL TIME FROM RECEIPT OF PART B	705-765 days
Scenario #3:	4.	Agency permit writer reviews & prepares NOD	60**
EPA issues	4a.	Enforcement prepares and issues Compliance Order (CO) with NOD	30
CO for incom-	4b.	Applicant responds to CO/settlement conference	30
plete Part B		TOTAL TIME FROM RECEIPT OF PART B	700-760 days

* Time required for this step is a regulatory requirement.
** Time is based on guidance provided in §124.3.
*** Time line includes allocation of time for technical discussions with applicant regaring permit conditions.

OSWER

Reproduced from best available copy.

9485.00-

IV. STUDY FINDINGS AND RECOMMENDATIONS

A. Study Findings

Incinerator permitting is generally proceeding as rapidly as possible considering the technical complexity inherent in the process. The need for additional information, reflected in the Notice of Deficiency (NOD), is a major factor in the time necessary to process an incinerator application. NODs deal preponderantly with the trial burn plan or the trial burn results because of their critical importance to the quality of the permit and because much of the information required is left to best engineering judgment.

The trial burn is often the only test of incinerator performance. Accordingly, it must provide a reasonable approximation of anticipated performance characteristics. Trial burn plans are negotiated on a case-by-case basis and typically necessitate a minimum of two NODs. Discrepancies in the type and quality of the data obtained from the trial burn or problems associated with the interpretation of resulting data often engender additional NOD cycles before such problems can be satisfactorily resolved. The permitting processing time can only be shortened significantly (i.e., permit issuance less than one year) if the regulation is changed such that permit conditions are based on standard operating conditions instead of performance standards (i.e., trial burn).

1. Permitting Timeframe

The results of this study suggest that, although some gains may be made in the time necessary to process incinerator permits for target cases, the overall time frame will not be shortened below 435 days for a new incinerator and 700 days for an existing incinerator. In fact, the average time that it takes to process incineration permits may increase due to the types of facilities being processed (e.g., commercial incinerators, which are inherently more time consuming), work load increases necessary to meet the HWDMS deadline (only 25 of the 235 permits have been issued to date), requests for variances, and review of trial burn data.

A notable exception to the average time estimate is the time which was necessary to issue the permit for the EPA mobile incinerator in Region VII. This permit was issued within 112 days of the date the Part B was received. The case is unusual in that the unit had been permitted in Region II and applied for a permit in Region VII using the non-site-specific information from the Region II application. The Region expedited permit issuance by intensifying personnel resources allocated to the application and by encouraging public participation in the review process. This type of resource commitment cannot occur for the bulk of the incinerator facilities.

Many of the permit writers interviewed indicated they believe it is possible to process applications for new incinerators in 180 days and existing incinerators in 365 to 545 days from the date that the Part B is received. This raises concern that permit writers may be providing too optimistic a picture of the permitting process to the applicant.

2. Federal Facilities

The permitting of federal facilities, particularly those operated by the Department of Defense (DOD), poses unique problems which are delaying the permitting process in many cases. A major cause of delays is the slow response by the applicant to requests for additional information. Delays may be partly attributed to the structure of the decision-making process in DOD and the Regional and State permit writers' hesitancy in taking action to force the issues. For the Regional permit writer, alternative actions are limited to calling in the Part B and denying the permit. The State permit writer, however, does have the ability to fine the applicant for non-compliance. The success of such efforts is presently being challenged in Federal court. In addition, DOD is known to delay the permitting process while searching for a decision by EPA Headquarters which is supportive of DOD's position (e.g., DOD has petitioned Headquarters over the past several years regarding the designation of "popping furnaces" as thermal treatment other than incineration).

The types of federal hazardous wastes and activities which are subject to RCRA are often unique (i.e., not encountered by most commercial facilities except those dealing with the federal government). For example, the permit writer must be familiar with munition calibers in order to assess the munitions which are subject to RCRA. This education process takes time and often requires the permit writer to apply RCRA regulations to situations which the authors never had in mind (e.g., destruction of off-specification hand grenades, destruction of nerve agents, etc.).

3. Permitting Priorities

New commercial capacity is said to be a top permitting priority in all Regions. But the results of the study suggest that the Regional permit writers have not considered commercial incineration capacity as the top priority. Although 3 new commercial incinerators have been permitted out of the 28 commercial incinerators which are listed on the data base, an average of only one commercial incinerator has been permitted each year. Frequently, land disposal facilities (both commercial and private) have supplanted other commercial facilities as the top priority. It is interesting to note that, in

Reproduced from best available copy.

most cases, other priorities were not mentioned by the permit writer as a cause for permit delays. The permit writer did say that the "crisis of the day" and HSWA issues often interrupt -- but never stop -- the process. They do not seem to perceive this as a shift in priorities but as an addition to previously established priorities.

The relative priority of incinerator applications is almost always affected by the number and complexity of land disposal facilities in the region and the effect of HSWA. HSWA impacts include the necessity for corrective action and the post-permit issuance activities necessary to monitor the schedule for remedial response.

Delays in permitting were frequently attributed to HSWA implementation. A case in point is the Merck and Company incinerator in Region III. The draft permit was in the 45-day comment period when HSWA became effective. The permit was modified to reflect the necessary changes and the permit underwent a second public notice. Permit redrafting was delayed because this was the first permit in the Region to incorporate HSWA requirements.

Facilities requiring expanded treatment capacity under interim status were not mentioned by any Region as a priority for permitting. Considering that expanded capacity for an incinerator usually means building a new incinerator under interim status, some Regions indicated a preference to do this with a RCRA permit unless conditions were such that capacity did not exist to treat waste.

4. Permit Processing

The processing of incinerator permits is influenced by many of the same factors which affect other types of RCRA permits. These factors include: changeover in permitting staff, facility-caused delays for existing facilities, and lack of readily available guidance on technical and policy issues. The lack of permit writer technical expertise in the field of incineration is particularly detrimental due to the highly technical nature of the treatment activity. The specific effect of these factors on the incineration permitting process is discussed below.

a) Every Region has at least one incinerator expert and several other experienced permit writers. However, due to a high turnover in permit writer staff at both the Regional and State level, there continues to be a cadre of inexperienced permit writers. These persons frequently lack training and guidance on incineration and RCRA and learn through the permit

review itself rather than through formal education. They tend to rely heavily on the experts, who are stretched in their ability to act as both mentor and permit writer. Furthermore, the States similarly rely on regional experts or contractor support rather than developing in-house expertise.

High turnover among permit writers can be attributed to natural attrition, lack of recognition, and flight to the Superfund program by RCRA permit writers. The permit writers said that a major reason for the attrition is due to the lack of advancement potential (i.e., the pay scale usually tops out at a GS-11 level) and because the "glory" is reserved for Superfund.

New permit writers who have not worked on a permit from the beginning may not be fully aware of the history of individual facility issues. This causes significant delay in processing permits and may result in permit conditions which do not fully address the technical problems associated with the individual facility. It appears that the permit files do not track technical issues closely, if at all. There is no immediate solution to this problem. New permit writers will invariably identify different issues because much of the decision process is based on "best engineering judgment." Guidance manuals may alleviate the problem.

b) Frequently the facility is the major cause of delays in processing permits. This is particularly the case for existing facilities. Examples of facility-caused delays are that the incinerator needed to be rebuilt or that the facility was slow in responding to NODs. States have often been reluctant to take enforcement actions in order to expedite the process. Even when they do, the use of enforcement actions does not necessarily result in speedier resolution of problems.

Facilities frequently rely on contractors to assist them in developing permit applications, in building or altering the incinerator and in conducting trial burns. Yet contractor resources are often not available on a timely basis due to lack of understanding or poor planning. Without timely and effective contractor support, further delays are inevitable.

Variance requests by the applicant may significantly extend the permitting process. In most cases, the applicant continues to request a variance after an unfavorable ruling has been made by the Regions and Headquarters. Additional information and further supporting arguments are typically presented directly to Headquarters. Part 124 administrative procedures do not define the procedures for variance request and appeal. Most importantly, they neither define the point at which administrative authorities are exhausted nor at which level they conclude

Reproduced from
best available copy.

(i.e., Regional or Headquarters). Therefore, the appeal for a reevaluation of the variance denial is often accompanied by the suggestion that the next course of action will be a court appeal of the decision. The Agency has little recourse other than court action and the case may not be supportable under the regulations.

In the case of Union Carbide's facility in New Jersey, the compound selected for the trial burn has been under contention for over a year. Headquarters made a "final" decision on this in June of 1985, but the applicant continues to petition for a change in decision. The boiler variance allowed under Section 260.34 is another major issue delaying the permitting process in this case. The determination of what constitutes a boiler is expected to continue to cause problems following the issuance of the Phase II Boiler regulations. This request has been under debate for two years. (The facility does not currently burn hazardous waste.)

c) The study revealed that most permit writers were unwilling to allow the use of data in lieu of a trial burn as provided under Section 270.19 except in cases where the incinerators are at the same location, are exactly alike, and burn identical waste. The permit writers are not sufficiently confident to translate data from the trial burn of one incinerator into permit conditions for another incinerator. Therefore, permit writers frequently deny the request to use other data. This in turn delays the permitting process, since the application must be modified following the denial of such a request. (Guidance must be provided to the permit writer identifying appropriate applications of data in lieu of a trial burn.)

d) Permit writers must frequently make decisions on technical and policy issues without the benefit of guidance or with outdated guidance. There was a consensus that the monthly conference calls and the yearly work group meetings have been extremely helpful. But many permit writers expressed concern about the lack of adequate model permits, trial burn plans and other reference materials, such as the upcoming Trial Burn Manual and the Engineering Handbook. Such materials could assist them on both policy and technical decisions. It should be further noted that the State permit writers are not involved in the conference calls or the workshops and must depend on the Regions for information.

B. Recommendations

Each Region has unique problems and solutions which are a function of the mix of permit writer experience, management approaches, state interaction and types of facilities and political pressures encountered within. As such, an effective solution for a problem in one Region may be ineffective in resolving the same problem in another Region. Nevertheless, there are common problems and prospective solutions applicable to all Regions. Effective resolution of many of the major issues outlined above will require a reasonable degree of national consistency in approach.

1. Develop Guidance Documents

The study results suggest that insufficient guidance is available to the Regions and States on several key topics. This in turn slows the incinerator permitting program. It is recommended that guidance documents be developed in order to accelerate the permitting process and to provide more uniformity of program implementation nationally. It is also recommended that these documents be prepared and presented in a manner which facilitates their usefulness. They should be easy to read and use. This should also serve to alleviate some of the burden currently experienced by the regional incineration experts. The guidance may minimize, but certainly not eliminate, the number of appeals of decisions made by the permit writers since the Agency's position will have been stated in advance.

Guidance documents should be developed on the following topics:

a) Continuous carbon monoxide (CO) monitoring, including the types of monitors, sampling location, pre-evaluation of sampling location, performance standards, use of computerized monitoring systems, calibration and zero-check method and frequency, definition of what constitutes continuous monitoring as required under Section 264.347.

b) Elements necessary in an incinerator system design, including the adequacy of air pollution control systems and the automatic waste feed cut-off system. A computerized model on incinerator physical design characteristics is currently under development by ORD.

c) Waste feed and POHC selection, including waste analysis and "POHC soup" for incinerators burning multiple combinations of waste (i.e., commercial facilities).

d) Detailed checklists identifying all necessary elements of sampling and analysis programs; quality assurance/quality control plans for each sampling and analysis method, and monitoring procedures. A checklist identifying for the permit applicant the types of resources necessary to construct, test, and operate a HW incinerator. The Practical Guide - Trial Burns for Hazardous Waste Incinerators (June 25, 1985), which was prepared by MRI for ORD, provides much of the information for applicants on the types of resources required.

e) A trial burn data base. This is currently under development by ORD.

f) Guidance on the use of data in lieu of a trial burn to expedite permit processing. This should include guidelines considering the circumstances under which use of data in lieu of the trial burn is appropriate.

2. Develop Model Documents

In addition to guidance documents which assist permit writers in resolving policy and technical issues, the study findings suggest that "models" should be developed. The models will serve to expedite the process by providing easy-to-use, "cook book" examples for those parts of the permitting process which apply in most, if not all, cases.

The models to be developed or updated are:

a) Model trial burn plans and monitoring procedures, including a sampling and analysis plan with QA/QC procedures for each sampling and analysis method.

b) Model incineration permits for classes of incinerators (e.g., commercial incinerators).

c) Model trial burn results report format.

3. Improve Public Information

The public needs to be educated if incineration is to be an accepted method of treating hazardous waste. The information must be unbiased and must be presented in a form readily understood by the public.

Public information brochures should be prepared to assist the permit writer in informing the public about the RCRA process and about incineration. The following information brochures should be prepared:

a) Explanation of the RCRA permitting process.

b) Explanation of hazardous waste incineration.

c) Explanation of the issues of special concern (e.g., Dioxin, Products of Incomplete Combustion).

4. Provide Additional Training/Technology Transfer

Permit writers identified the following course needs:

a) A very basic course in hazardous waste incineration for the novice permit writer. It should include a discussion of the regulations, various common incineration designs, and basic concepts of incineration.

b) A focused course on translating trial burn results into permit conditions.

c) Periodic symposia to transmit to the permit writer on a timely basis information and knowledge in the dynamic and rapidly changing field of hazardous waste incineration.

Section V.B. identifies the training courses which are available now or in the near future. With the exception of periodic symposia, these courses appear to meet the training needs identified above. The one major drawback to many of these courses is that they are not offered on a continuing basis, and thus, the training needs of the new permit writers and new applicants are not met.

5. Provide Administrative Guidance

Many of the problems identified in the study are technical in nature. However, a few deal directly with the administrative aspects of the permitting program. The following actions are recommended as effective means of administrative support:

a) Re-emphasize the need to address incinerator facilities as a top priority for permit processing. Heightened priority should be clearly reflected in

Reproduced from best available copy.

both the RIP and the SPMS. An average schedule for issuing incinerator permits should be distributed to assist regional managers in planning and in determining their real ability to meet the RCRA deadlines.

b) Ensure thorough distribution of guidance documents. Frequently permit writers are not provided all pertinent guidance or do not take the time to read the guidance. It is suggested that a compendium of applicable guidance documents be developed, maintained, and provided to all new permit writers.

The Permits and State Program Division of OSW is preparing a compilation of applicable policy decisions. This information will be provided to the Regions. The Permits Branch plans to collect incinerator-specific information and to provide copies of this material to all Regional and State permit writers.

c) Provide guidance on when to reprogram funds for additional contractor support and available assistance from ORD. Some regions do not take advantage of the technical expertise available to them through contractual support, the Office of Research and Development, or other regions.

d) Provide greater Headquarters support for permit writers to expedite the permitting of DOD facilities. This would include coordinating discussions between permit writers in conference calls and providing timely guidance on issues. This activity is planned to facilitate the permitting of the DOD nerve-agent demilitarization facilities.

e) Take action to stem the exodus of qualified permit writers from the incineration program. This action should include providing increased advancement potential for Regional permit writers and establishing an award or bonus program so that permit writers receive recognition for their achievements.

V. IMPLEMENTATION PLANNING

The implementation of the activities described above will require careful planning to ensure availability of resources and personnel. Planning will also be necessary to ensure that the following criteria are met:

- o The improvements should become effective on a schedule which will enhance the Agency's ability to meet HSWA deadlines for incinerator permit issuance; and

- o The improvements should be accomplished on a schedule designed to ensure that the most serious information gaps are filled first and that information is available when needed.

In the event that resources are limited, we believe that improved guidance should take precedence over training since guidance documents will have longer-term beneficial effects.

A. Guidance Documents and Models

The following is a list of proposed activities designed to expedite and enhance the permitting process for hazardous waste incinerators. The activities have been rank ordered based on the effect each will have on permit quality, public acceptance, and timeliness. All of the activities identified, with the exception of Tasks 11 and 12, have been initiated as a result of this study. Draft reports should be available for distribution to the permit writers for comment by December 1986. Regional permit writer participation will be integral to the development of all guidance documents and models.

Tasks 9, 11 and 12 will be completed during FY 1987 if sufficient personnel and extramural resources are available. The Model Trial Burn for Commercial Incinerators, Task 11, was delayed until FY 1987 because the development of the model is dependent on information developed in other guidance documents and models (e.g., Guidance on Setting Permit Conditions, Item 6). The Data Base, Task 9, and the Incineration Risk Assessment model, Task 12, should be very useful to the permitting process but have been delayed until FY 1987 because of limitations in resources and because other task have been assigned higher priority.

[illegible]

[illegible]

Guidance Material	Rationale for Tasks
1. Continuous Monitoring for CO	OSW has no guidance in this area, yet the performance of the incinerator after the trial burn depends on the performance of the CO monitor. Delays are being caused due to lack of guidance because decisions of questionable validity are being negotiated (Guidance (a), page 23.)
2. Engineering of Hazardous Waste Thermal Destruction (Computer Model)	Permit writers must evaluate the potential performance of all new incinerators. This tool would improve the accuracy and timeliness of the evaluation process. (Guidance (b), page 23.)
3. Public Information Brochures on: RCRA Incineration, PICs, and Dioxin	Improved public education may mitigate the NIMBY syndrome. (Improve public information, page 24.)
4. Problem POHC Reference Directory	The improper selection of POHCs results in inaccurate trial burns. At present, information about problem POHCs is known only to a few people and is disseminated by word of mouth only. This information must be documented to ensure that good decisions are made by all permit writers. (Guidance (c), page 23.)
6. Setting Permit Conditions	The setting of permit conditions needs to be standardized as much as possible to assure consistency and uniformity. (Model (b), page 24.)
7. Model Trial Burn Report Format	Disorganized and inadequate trial burn data reports cause delays in the permitting process due to difficulties in reviewing data. (Model (c), page 24.)

PROPOSED INCINERATION

GUIDANCE DOCUMENTS AND MODELS

Guidance Material		Rationale for Tasks
8.	Hazardous Waste QA/QC Guidance	QA/QC is very important to ensure data from the trial burn produces 'good data' and to ensure the continued performance of the unit. (Guidance (d), page 24, and support for Model (a), page 24.)
9.	Thermal Destruction Data (Computerized)	Permit writers should have a trial burn data base so that decisions can be made based on real experience. The mechanism for this has been funded by other groups and the Permits Branch, for a nominal fee, could have this capability. (Guidance (e), page 24.)
10.	Guidance on Use of Data-in-lieu of a Trial Burn	Guidance on the applicability of data-in-lieu of a trial burn would expedite the processing of some permits. (Guidance (f), page 24.)
11.	Model Trial Burns for Commercial Incinerators	The trial burn for commercial incinerators needs to be standardized to facilitate permitting and to ensure the trial burn design in fact provides an adequate profile of the unit. (Model (a), page 24.)
12.	Incineration Risk Assessment	A user-friendly risk assessment model is needed for such purposes as determining de-minimus levels of Appendix VIII compounds and setting priorities. A pilot model has been developed and provided to the Regional permit writers.

Reproduced from best available copy.

9188.0076

3 **Training**

Regions have described areas where they need training. (See page 28). Several training courses are readily available or could be developed within a short period of time on these topics. The present system for providing training relies heavily on Regional preferences and covers all subjects with all levels of staff simultaneously. Experience has shown that this system is not particularly successful in meeting Regional and State training needs because the information is either not advanced enough for the experienced permit writer or too advanced for the new permit writer. The course evaluations suggest that several courses should be conducted at different levels covering different topics.

1. A plan for training should be developed which will address the following:

   a) Permit writer training needs as a function of education and experience. This should be determined by polling the Regions.

   b) Specific courses to be conducted, including course outlines, appropriate audience, duration. Recommended topics outlined above (IV.B.4) should be discussed.

   c) A schedule for providing the training, balancing the immediate needs of the permit writers with available resources and instructors. This schedule should also consider other training courses already scheduled.

   d) A detailed estimate of the level of effort and resources required to implement the training plan. The estimate should recommend whether inside or outside resources ought to be used to implement the training plan.

2. Several courses are already developed or are under development:

   a) Hazardous Waste Incineration Permit Writers Workshop

      Developed by: A. T. Kearney

      Audience: Regional and State permit writers

      Duration: 3-4 days

Schedule: This course will be provided at the request of the Regional permitting authority. Region IX has scheduled the course for the second week in June.

b) Technology Transfer Seminar Series on Permitting Hazardous Waste Incinerators

Developed by: ORD

Audience: Region, State, Industry, General Public

Duration: 2 days

Schedule: Three courses tentatively scheduled in September and October 1986

c) Sampling and Analysis for Hazardous Waste Combustion Workshop

Developed by: ORD

Audience: Region, State, Industry

Duration: 2 days

Schedule: Courses tentatively scheduled in FY 1987

The seminar courses under development by ORD [see courses b) and c)] will be available to industry as well as permit writers. These offerings should serve to educate the applicant with regard to RCRA and incineration, potentially diminishing facility-caused delays.

Together, the three programs outlined above meet the training needs of both new and experienced permit writers. However, b) and c) are offered only on a limited basis, and a) is scheduled only at the request of a given Region. Budgetary constraints preclude the Regions from scheduling this course frequently enough to meet the needs of their permit writers.

ATTACHMENT II

Facilities Reviewed During
Incineration Permitting Study

I	SCA Chemical Services	MAD053452637	C
	Big Pen	CTD001166586	TB
	Pratt & Whitney	CTD990672081	"Major", TB
II	Rollins	NJD053288239	C, LD
	USEPA Mobile Inc.	NJD980526693	FD
	Occidental	NYD000824482	TB
	General Electric	NYD066832023	LD
	Kodak	NYD980592497	TB
III	Gulf Oil	PAD049791098	TB
	American Cyanamid	WVD004341491	LD
	Union Carbide	WVD060682291	FD, TB
	DuPont, Wilmington Experimental Station	DED003930807	FD
IV	GE Wilmington	NCD005040950	FD
	Kodak	TND003376928	enf. problem
	Ciba-Geigy	ALD001221902	TB
	Mississippi Army Ammunition	MS0080016123	Fed
V	Eli Lilly	IND072040348	TB
	3-M Chemolite	MND006172969	TB
	SCA Environmental Services	ILD000672121	C
	Ross Inc.	OHD048415665	LD, C
	U.S. Army Savannah Army Depot	IL3210020803	Fed
VI	Stauffer	LAD008161234	C
	Phillips	OKD000803601	C/R&D fac
	ENSCO	ARD069748192	C/TB
	Badische Corp.	TXD008081697	new, TB
VII	Iowa Army Ammunition	IA7213820445	LD, Fed
	Mobay Chemical	MOD056389828	TB
	Lake City Ammunition	MO4213820489	Fed, LD
VIII	Rocky Mountain Arsenal	CO5210020769	Fed
	Amoco	NDD006175467	LD
	Great Plains Coal Gasification	NDD000690594	Energy/ Research
	Tooele Army Depot	UT3213820894	Fed
IX	Stauffer	CAD076941103	new C
	Johnston Atoll	TTO570090001	FD, Fed
	NAVMAG DEMIL Furnace	HI8170090015	Fed

None in X

Key: C = Commercial facility
TB = Trial burn conducted
LD = Land disposal unit(s)
FD = Final determination
Fed - Federal facility

HAZARDOUS WASTE INCINERATION
PERMITTING STATUS QUESTIONNAIRE

The following questionnaire has been developed to support a study of the progress of the hazardous waste incineration permitting program. It is separated into two parts. The first covers general issues which pertain to the Region's policies and procedures for processing incineration permit applications. These questions should be answered by managers responsible for the overall incinerator permitting program. The second covers issues specific to the progress of particular incineration facilities. This part should be answered by the permit writers (and relevant specialists) who have worked or are working on specific permit applications.

9480...

Date: _____
Region: _____
Interviewee: _____

HAZARDOUS WASTE INCINERATION PERMITTING STUDY QUESTIONNAIRE

PART I

GENERAL QUESTIONS

1. Describe the system the Region uses to process incinerator Part Bs. Specifically, discuss the following: Does the Region generally rely on one person to address the entire Part B or is a team approach used? Does the Region regularly conduct quality assurance evaluations of on-going permit reviews? Is there a distinction made between completeness and technical evaluations? Between NODs and Requests for Additional Information? What information is normally provided to the applicant when the Part B is requested? At what point is a site visit conducted?

2. How and when does the Region become involved in processing State-issued incinerator permit applications?

3. What criteria does the Region use to set priorities for requesting and processing incinerator permits? What, if anything, has affected these priorities over the last year?

4. How many, if any, facility management plans have been prepared involving incinerator facilities? When will the FMPs for the remainder be completed? Do any of the facilities in the sample set have FMPs?

5. In general, what is the level of experience of your permit writers? Do you have enough permit writers with adequate experience and education to meet the permitting goals of HSWA? If not, what are your suggestions for improving the situation?

6. Is the Region's public participation program geared toward the high-priority incinerators?

7. How will the public participation program affect those high-priority incinerator facilities?

8. Would it/does it affect the sample set of facilities? If so, which ones and how?

9. How are requests for treatment capacity expansion being handled at the State and Regional level? Are applicants usually required to obtain the full §264 permit or are expansions being approved under interim status?

10. How are inquiries for mobile treatment being handled? Are applicants required to obtain full §264 permits or are most cases being handled under a change in interim status?

11. Are the Region and States doing anything to encourage new commercial facilities? If so, describe.

12. How are inquiries for RD&D types of treatment being handled? What are the problems with this type of permit?

13. What is the Region's policy with regard to use of data in lieu of a trial burn?

14. What could be done to facilitate uniformity of permits for incinerators of the same design and burning the same type waste?

15. What problems specific to pre-HSWA implementation have been encountered which are delaying permitting of incinerators?

16. What problems do you foresee with the HSWA regulations as they affect incinerator facilities?

17. Are there cases in your Region where you have expedited the review process? Identify the facilities. What instigated the fast-track response, how was it accomplished and what was the time frame?

18. What could be done to speed up the permitting process for incinerators? If this action was accomplished, conceivably what is the shortest reasonable time in which a permit could be issued?

19. What, if any, problems has the Region encountered in addressing incinerators at federal facilities?

Facility Name _____
EPA I.D. No. _____
Permit Writer _____
Region/State _____

HAZARDOUS WASTE INCINERATION PERMITTING STUDY QUESTIONNAIRE

Part II

Requesting the Part B

1. What triggered the request for this facility's Part B?

2. What information was sent to the owner/operator along with the Part B request?

3. Was there interaction between the permit writer and owner/operator prior to submission of the Part B (e.g., meetings, correspondence, telephone calls, site visits)? If so, describe. Comment on whether this activity assisted in the permit process.

4. Was the Part B submitted on the date it was originally due? If not, why not?

5. How could this part of the process be improved or expedited?

Application Review

1. How was the review organized (i.e. did one person review the entire application; did specialists review individual sections)? What was the background/training/experience of the reviewers? Who had the responsibility to see the permit through the review process? Did that person change during the course of the permit review? Was the State involved in this review? If so, how?

2. Was the incinerator component reviewed at the same time as the remainder of the facility?

3. Did other facility components hold up processing the incinerator portion of the facility? If so, what were those components? Especially identify if corrective action at SWMUs or other regulated units was responsible.

4. Did other priorities delay processing the incinerator facility permit application? If so, describe.

5. When were the NODs and/or requests for additional information issued?

6. Were there any issues which continued to be raised in NODs or additional information requests to which the facility did not respond? If so, what were they? Were they resolved? How?

7. What, if any, non-process-related issues were difficult to resolve (i.e., Contingency Plan, security, preparedness, etc.)? How were they resolved? Who was involved in resolving those issues?

8. What additional communication was there with the owner/operator during the review of the application (letters, telephone calls, enforcement actions, etc.)? What was the purpose of the communication?

9. Was there a site visit? What was the purpose? Who participated? What were the results of the visit?

10. Which components of the Part B had the most significant technical deficiencies on the first submittal?

    Waste analysis plan
    Engineering description
    Sampling & analysis procedures
    Trial burn protocol
    QA/QC

11. Briefly describe these deficiencies and discuss how they were addressed by EPA and the facility. Was technical assistance provided by the PAT? How was the assistance requested (e.g., through the monthly conference call)? Was it helpful and timely?

12. Were any data collected previously at this source submitted with the Part B in lieu of a trial burn plan? Were the data adequate to assess comparability of units and performance of the facility?

13. Which of the above-mentioned components of the Part B were most difficult to review and why?

14. What were the difficult technical issues and how were they resolved? Was technical expertise available to assist in resolving those issues? If so, who?

    Examples: Continuous monitors/waste feed cut-off
    Relationship of trial burn protocol and desired permit conditions.

14. Were there inadequacies in the facility's physical design which affected the permit issuance process?

Examples: Continuous monitors (CO, combustion gas velocity)
Waste feed cut-off system.

15. What suggestions do you have which might expedite this part of the review?

Trial Burn and Draft Permit

1. Was the trial burn protocol adequately designed to enable development of permit conditions for this particular incinerator? (e.g., were the proper POHCs selected? Was ash evaluated?).

2. What difficulties, if any, were there in scheduling the trial burn?

   Example: Establishing testing contractor
   Obtaining sufficient waste

3. Did the facility meet all of the performance requirements? If not, explain what happened and discuss the time involved in the resolution of the problem. Has a second trial burn been required?

4. Was the trial burn report adequate to write permit conditions (e.g., did the report adequately characterize the results of the trial burn, could you find the data in the report)? If not, what were the inadequacies? When was an adequate report submitted?

5. Describe the process used in preparing the draft permit (e.g., what other offices were involved, such as ORC or Enforcement)?

6. What, if any, technical issues arose in interpreting the trial burn data to develop draft permit conditions? How were they resolved? How long did it take to develop the draft permit conditions?

7. What additional communication took place between the permit writer and owner/operator during the development of the draft permit?

8. What suggestions do you have to expedite this portion of the process?

Public Comment Period and Final Determination

1. Did the owner/operator undertake any upfront public relations work to overcome negative public interest in the incinerator?

2. Did the Region do anything to expedite the public comment period, such as scheduling a public hearing without waiting for a request from the public?

3. Was a public hearing held?

4. What issues were raised during the public hearing and comment period?

5. Did unanticipated issues arise during the public comment period? What were they and how were they resolved?

6. Was the draft permit modified as a result of the public comments? If so, how?

7. Was the public comment period reopened to address modifications of the permit?

8. What, if anything, delayed the issuance (or denial) of the permit?

9. If the permit was denied, why?

10. Did the owner/operator appeal the final determination?

Summary Observations

1. Do you have any specific recommendations for expediting the permit process?

2. Do you use any or all of the following Guidance Manuals:

   - o Guidance Manual for Hazardous Waste Incinerator Permits, SW-966, July 1983.
   - o Model Permit Application for Existing Incinerators, Draft, 1985
   - o Engineering Handbook for Hazardous Waste Incineration, SW-899, September 1981 (revision expected December 1985).

New Facility Questions

New incinerator facilities present a special case in processing permit applications. Describe any issues not previously discussed (administrative, technical or public interest) which affected the issuance of this permit. Clarify if they were concentrated in any of the four phases of a new incinerator permit.

Break-in period (e.g., difficulties in establishing waste feed conditions for break-in period)
Trial burn period
Shakedown period
Final permit period

Do you address the four phases of a new facility permit uniquely? Describe . . .

ATTACHMENT II

Facilities Reviewed During
Incineration Permitting Study

I	SCA Chemical Services	[illegible]AD053452627	C
	BIC Pen	CTD001166586	TB
	Pratt & Whitney	CTD990672081	"Major", TB
II	Rollins	NJD053288239	C, LD
	USEPA Mobile Inc.	NJD980526693	FD
	Occidental	NYD000824482	TB
	General Electric	NYD066832023	LD
	Kodak	NYD980592497	TB
III	Gulf Oil	PAD049791098	TB
	American Cyanamid	WVD004341491	LD
	Union Carbide	WVD060682291	FD, TB
	DuPont, Wilmington Experimental Station	DED003930807	FD
IV	GE Wilmington	NCD005040950	FD
	Kodak	TND003376928	enf. problem
	Ciba-Geigy	ALD001221902	TB
	Mississippi Army Ammunition	MS0080016123	Fed
V	Eli Lilly	IND072040348	TB
	3-M Chemolite	MND006172969	TB
	SCA Environmental Services	ILD000672121	C
	Ross Inc.	OHD048415665	LD, C
	U.S. Army Savannan Army Depot	IL3210020803	Fed
VI	Stauffer	LAD008161234	C
	Phillips	OKD000803601	C/R&D fac
	EnSCO	ARD069748192	C/TB
	Badische Corp.	TXD008081697	new, TB
VII	Iowa Army Ammunition	IA7213820445	LD, Fed
	Mobay Chemical	MOD056389828	TB
	Lake City Ammunition	MO4213820489	Fed, LD
VIII	Ro[redacted] Mountain Arsenal	CO5210020769	Fed
	Amo[redacted]	NDD006175467	LD
	Great Plains Coal Gasification	NDD000690594	Energy/ Research
	Tooele Army Depot	UT3213820894	Fed
IX	Stauffer	CAD076941103	new C
	Johnston Atoll	TTO570090001	FD, Fed
	NAVMAG DEMIL Furnace	HI8170090015	Fed

None in X

Reproduced from
best available copy.

Region: State: EPA ID:
Facility Name:
Street:
SIC #'s: SIC #2: SIC #3: SIC #4:
Original Regional Contact:
Interpretor Existence: Commercial Facility: Y N
Access Pre-Exist: Y N Number of Waste Streams:
Type of Interpretor: Description:
Processes:

Part B Received:
Part B Rec.
Part B Received:
NOD/Request for Additional Information Issued:
/ / / / / / / / / / / /
Trial Burn Conducted: / / / / / /
Trial Burn Report Submitted: / / / /
Public Notice of Draft: / / / /
Public Hearing: / / / /
Final Determination: (PI, PD, MM)
Final Determination Date: / /

********** MAJOR MODIFICATION ONE **********

Part B Received: / /
NOD/Request for Additional Information:
/ / / / / /
Public Notice of Draft: / / Public Hearing: / /
Final Determination: (PI, PD, MM)
Final Determination Date: / /

********** MAJOR MODIFICATION TWO **********

Part B Received: / /
NOD/Request for Additional Information:
/ / / / / /
Public Notice of Draft: / / Public Hearing:
Final Determination: (PI, PD, MM)
Final Determination Date: / /

********** MAJOR MODIFICATION THREE **********

Part B Received: / /
NOD/Request for Additional Information:
/ / / /
Public Notice of Draft: / / Public Hearing:
Final Determination: (PI, PD, MM)
Final Determination Date: /

DEFINITIONS OF DATA ELEMENTS
ON DATA VERIFICATION FORM

Last Update: This is the date the information was entered into the computer.

Region: Self-explanatory.

State: Self-explanatory.

EPA ID: Self-explanatory.

Street, City, Zip: Self-explanatory.

SIC: Provide Standard Industrial Codes representing the three most prevalent processes at the facility for which the incinerator is used.

Original Regional Contact: Provide the name of the permit writer for this facility.

Incinerator Existence: Write "N" if the incinerator is a new incinerator.
Write "E" if the incinerator is existing.
[NOTE: This is not intended to describe interim status of the facility.]

Commercial Facility: Write "T" if the facility is a commercial facility.
Write "F" if the facility is not a commercial facility.

Accepts Off-Site: Write "T" if the facility accepts waste from off-site.
Write "F" if the facility does not accept waste from off-site.
[NOTE: A facility which accepts waste from other facilities owned by the same company should write "T".]

No. of Waste Streams:	Describe the number of waste streams handled by the incinerator. Write: A = if there are 1 or 2 waste streams B = if there are 3 to 5 waste streams C = if there are 6 to 10 waste streams D = if there are more than 10 waste streams
Type of Incinerator:	Describe the type of incinerator at the facility. Write: 1 = liquid injection 2 = rotary kiln 3 = hearth 4 = fluidized bed 5 = combination or other
Description:	If the type of incinerator is "5", describe the incinerator.
Processes:	List the hazardous waste management processes used at the facility.
Part B Requested:	Provide the date the Part B was requested (month/day/year).
Part B Due:	Provide the date the Part B was due.
Part B Received:	Provide the date the Part B was received.
NOD/Request for Additional Information Issued:	Provide the date(s) that Notices of Deficiency (NODs) and/or Requests for Additional Information were issued. Space is provided for nine dates.
Trial Burn Conducted:	Provide the date that the trial burn was conducted, if applicable. Space is provided for two dates.

Trial Burn Report Submitted:	Provide the date that the Trial Burn Report was submitted, if applicable. Space is provided for two dates.
Public Notice of Draft:	Provide the date the Public Notice of the Draft Permit was issued. Space is provided for two dates.
Public Hearing:	Provide the date the Public Hearing was held, if applicable. Space is provided for two dates.
Final Determination:	Describe the type of Final Determination made. Write: PI = Permit Issued; PD = Permit Denied; MM = Major Modification.
Final Determination Date:	Provide the date of the final determination.

For new facilities, space is available to provide relevant dates concerning the initial break-in permit plus the three possible major modifications, including the trial burn, the shakedown, and the final permit.

Reproduced from best available copy.

4488.00-6

FACILITY	EPA ID	NUMBER OF DAYS
IT CORPORATION OF LOUISIANA	LAD [illegible]	529
JOHNSTON ATOLL CHEM AGENT DISP	[illegible]	487
LWD, INC. CLAY	KYD[illegible]8674	840
MCDONNELL DOUGLAS ELECTRNCS CO	MCD[illegible]6487	380
NOR-AM CHEMICL CO/SPEC CHEM INC	MID080[illegible]8351	469
PENNWALT CORP.	KYD006370159	320
PHILLIPS RESEARCH CENTER	OKD000803601	410
PPG INDUSTRIES, INC.	OHD004304689	347
U.S. ARMY (MSAAF.	MS0800016123	239
U.S. ENVIRONMNTL PROTECTN AGCY	NJD980526693	332
U.S. EPA MOBILE INCINERATOR	MO6680090010	112
UNION CARBIDE SO CHARLESTON PL	WVD005005483	557
USEPA COMBUSTION RESRCH FACLTY	AR6140090006	354
WASTE TECHNOLOGIES INDUSTRIES	OHD980613341	646

ATTACHMENT V

9488.00-6

NUMBER OF DAYS BETWEEN RECEIPT OF PART B APPLICATION AND FINAL DETERMINATION

ARTICLE XXV - OPERATOR FACILITIES

FACILITY	EPA ID	NUMBER OF DAYS
COMMERCE INDUSTRL CHEMICLS INC	[illegible]	843
CURWOOD, INC.	[illegible]	597
DUPONT EXPERIMENTAL STATION	DED002970807	920
EASTMAN KODAK	NYD980592497	717
HERCULES, INC. RESEARCH CENTER	DED001315647	563
MERCK & CO INC-MERCK CHEM D.V.	PAD003043233	938
MERCK & CO., INC.	PAD002387926	577
UNION CARBIDE CRP-TECHNICL CTR	WVD060682291	934
UNIV. OF WIS-MADISON-ARLINGTON	WID000717594	895
US ARMY - PINE BLUFF ARSENAL	AR0213820707	570
ZAPATA INDUSTRIES, INC.	OKD990751059	369

Reproduced from best available copy.

FACILITY	EPA I
ABCO IN[illegible]TRIC[illegible], INC.	SCD00[illegible]e0[illegible]
BD OF C[illegible] CMS[illegible] MED [illegible]	[illegible]
CALDWELL SYST[illegible], INC.	[illegible]
CHEMICAL WASTE MANAGEMENT, [illegible]	[illegible]
DUPONT E I DE NEMOURS & CO	[illegible]
EASTMAN KODAK CO.	TND003376924
ENSCO, INC.	ARD069748192
INDUSTRIAL LIQUIDS RECYCLING [illegible]	TND000603569
IT CORPORATION OF LOUISIANA	LAD000757385
IT CORPORATION VINE HILL FACIL	CAD000094771
LWD, INC. CALVERT CITY	KYD088438817
LWD, INC. CLAY	KYD088438874
MITCHELL SYSTEMS, INC.	NCD991277724
NORLITE CORPORATION	NYD080469935
OLIN CORP/CHEMICAL GRP	KYD006396246
RADIUM PETROLEUM COMPANY	MOD07[illegible]27609
ROLLINS ENVIRNMNTL SRVCES (LA)	LAD010395127
ROLLINS ENVIRONMNTL SRVCES.INC	NJD053288239
ROLLINS ENVRNMNTL SRVCS TX INC	TXD055141378
ROSS INCINERATION SERVICES INC	OHD048415665
SCA CHEMICL SRVCES INC ILL DIV	ILD000672121
STABLEX SOUTH CAROLINA, INC.	SCD044442333
TRADE WASTE INCINERATION, INC.	ILD098642424
TRANE THERMAL COMPANY	PAD069006419
WASTE RESRCH & RECLAMATION INC	WID990829475
WASTE TECHNOLOGIES INDUSTRIES	OHD980613541
WASTE-TECH SERVICES, INC.	IDD072961295

ATTACHMENT VII

[redacted] CHECKS COMMERCIAL INCINERATOR LISTINGS ON HWDMS*

Facility	EPA No.	Comments
CIBA-GEIGY Corp.	ALD001221902	Not a commercial incinerator.
Southeastern Waste Treatment, Inc.	GAD000222063	Incinerator is not in operation. Incinerator has not formally closed.
Clean Harbor of Braintree (SCA)	MAD053452637	Suspended incineration operation on 1/31/86.
General Electric Co. Pittsfield, Mass.	MAD002084093	Not a commercial incinerator.
Trombetta, Inc.	MAD019474691	No incinerator.
A-1 Disposal Corp.	MID0596954452	Incinerator closed.
Coating Systems, Inc.	NHD056331077	No incinerator.
Battery Disposal Tech.	NYD000632372	RCRA exempt.
Delaware Container Co.	PAD064375470	No incinerator.
Hydrite Chemical Co.	WID006435887	RCRA exempt.

[redacted]

*HwDMS - Hazardous Waste Data Management System

Reproduced from
best available copy.

FACILITY [illegible] PART B APPLICATIONS
[illegible] RECEIVED

FACILITY	[illegible]	DATE PART B REQUESTED (NOTE: THOSE WITH NO DATE INDICATE THE PART B HAS YET BEEN CALLED-IN)
ALLIED CHEMICAL CORP/FAIRFIELD	[illegible]499803	12/06/85
ALLIED FIBERS & PLASTICS CO.	[illegible]5365296	08/16/85
AMOCO WHITING REFINRY-LAKEFRNT	IND[illegible]08108861	12/13/85
ARKANSAS EASTMAN COMPANY	AR0059234884	09/16/85
BRISTOL LABORATORIES CORPORATN	PRD0[illegible]692558	08/28/84
CELANESE CHEMICAL COMPANY, INC	TXD[illegible]9450278	06/06/85
DOW CHEM CO USA OYSTER CREEK	TXD000803270	/ /
E I DUPONT DE NEMOURS & COMPNY	TXD008079212	/ /
EL PASO PRDCTS CO ODESSA CMPLX	TXD980626014	06/06/85
ELI LILLY & CO., INC. MAYAGUEZ	PRD091024786	08/28/84
ENERGY COOPERATIVE, INC.	IND082547807	03/01/84
ENGLEHARD INDUSTRIES DIVISION	NJD041211392	/ /
ENVIRONMENTAL MANAGEMNT SRVCES	PRD000743187	/ /
FMC CORPORATION	TXD083570051	/ /
GENERAL DYNAMICS FT WORTH DIV.	TXD008016958	06/06/85
GENERAL TIRE & RUBBER CO.	TXD057422685	/ /
GOODYEAR TIRE & RUBBER CO.	TXD008077562	06/06/85
HONEYWELL, INC.	FLD004104105	06/27/85
IOWA STATE UNIVERSTY-VET MEDCN	NO ID # YET	11/12/85
LA PORTE CHEM CRP, BF GOODRICH	TXD070133319	/ /
LOS ALAMOS	NM0890010515	/ /
MORTON CHEMICAL	LAD059122077	12/15/84
NORTH AMERICAN PHILLIPS ELEC C	ALD004010757	/ /
ORTHO PHARMACEUTICAL CORP.	NJD002144202	/ /
PENNWALT CORPORATION	TXD008090011	/ /
PENNWALT CORPORATION	TXD074180019	/ /
POLAROID CORPORATION	MAD001402320	09/26/85
POLYREZ CO., INC.	NJD002330322	04/08/85
PPG INDUSTRIES, INC.	OHD004347308	06/13/85
REICHHOLD CHEMICALS, INC.	TXD008063398	06/06/85
ROTH BROTHERS SMELTING CORP.	NYD006977086	06/29/84
SCA CHEMICAL SERVICES INC. TN	TND000772186	/ /
SK&F LAB CO., CHEMICAL DIV.	PRD090613357	/ /
STAUFFER CHEMICAL CO.	ALD095688875	12/06/85
TROPE, I[illegible]	NJD095275269	/ /
TRW, INC[illegible]	OHD004179453	/ /
U S INDUS[illegible]IAL CHEMICALS CO.	TXD058276130	/ /
UNITED STATES STEEL-POLYESTER	NJD001724988	06/17/85
UPJOHN CO. POLYMER CHEM DIV.	TXD000017756	/ /
US AIR FORCE - KELLY AFB	TX2571724333	01/31/85
USA VOLUNTEER ARMY AMMO PLANT	TN6210020933	02/26/85
VOUGHT CORPORATION	TXD041089467	/ /
WASTE-TECH SERVICES, INC.	IDD072961295	/ /

ATTACHMENT X

CLOSED OR CLOSING FACILITIES

FACILITY NAME	EPA ID	FACILITY HAS INCINERATOR (T/F)
SOUTHEASTERN WASTE TREATMENT I	GAD000222083	.T.
UNION CARBIDE AGRIC PROD CO	GAD030035356	.T.
WINSTON CONTAINER CO.	NCD024477556	.T.
ALPHA RESI[redacted]NNESSEE PLANT	TND007037765	.T.
AMERICAN C[redacted]D CO.	CTD001173467	.F.
RAYBESTOS [redacted]TTAN CO STRATFD	CTD001186618	.F.
CLEAN HARBORS OF BRAINTREE INC	MAD053452637	.T.
R M I REFINERY, INC.	RID063890214	.F.
AMERICAN CYANAMID CO.	NJD002173276	.T.
GATEWAY TERMINALS SERVICE	NJD055933030	.T.
NORTHEAST SOLITE CORP.	NYD050424324	.T.
RICA CHEMICAL CORPORATION	PRD090427030	.T.
KOPPERS CO., INC.	ILD005164611	.T.
REXNORD INC ROCKFORD PROD CORP	ILD005212097	.T.
TEXACO, INC. TEXACO USA DIV.	ILD041518861	.T.
DOW CHEMICAL CO.	IND000195545	.T.
A-1 DISPOSAL CORP	MID059695452	.T.
MAYBELLINE CO.	ARD077395283	.T.
BASF WYANDOTTE CORP.	LAD040776809	.T.
US AIR FORCE HOLLOMAN AFB	NM6572124422	.T.
LUFKIN CREOSOTING COMPANY, INC	TXD008063661	.T.
GOODYEAR TIRE & RUBBER CO.	TXD008077190	.T.
UNION CARBIDE CORP BROWNSVILLE	TXD008114092	.T.
SECURITY DIV, DRESSER INDUSTRS	TXD030171979	.T.
3M CO - T&CG	MOD057894321	.T.
SYNTEX CHEMICALS, INC.	COD076470525	.T.
PPG INDUSTRIES, INC.	CAD008323438	.T.
STAUFFER CHEM CO PLASTICS DIV	CAD076941103	.T.
UNITEK ENVIRONMNTL SERVCES INC	HIT000603514	.T.
PACIFIC WOOD TREATING CORP.	WAD009422411	.T.
U.S. NAVAL MAGAZINE LUALUALEI	HI9170090006	.T.
RISDON CORPORATION	CTD001168558	.F.
PIERCE CHEMICAL	ILD041539230	.T.
ACTIVE STEEL DRUM CO., INC.	NYD003933355	.T.
CASE-HOYT	NYD002206365	.T.
BELL TEST CENTER	NY4572024624	.T.
BENDIX CO&P.	NYD001827633	.T.
OCCIDENTAL CHEMICAL CORP.	NYD002106938	.T
CYANAMID AGRICLTRL DE P.R. INC	PRD091065102	

ATTACHMENT IX

EXEMPT FACILITIES

FACILITY NAME	EPA ID	FACILITY HAS INCINERATOR (T/F)
BIC PEN CORPORATION	CTD001166586	.T.
ORTHO DIAGNOSTIC SYSTEMS, INC.	NJD068715424	.F.
BATTERY DISPOSAL TECHNOLOGY	NYD000632372	.F.
NEPERA CHEMICAL	NYD002014595	.T.
NORTHEAST SOLITE CORP.	NYD050424324	.T.
BROOKHAVEN NATIONAL LABORATORY	NY7890008975	.F.
WINTHROP LABORATORIES, INC.	PRD991291949	.F.
NORTHERN PETROCHEMICAL CO, INC	ILD048296180	.T.
3M CORDOVA CHEM-MAG A-V	ILD054236443	.T.
CATALYST RESOURCES/DART INDUST	OHD046202602	.T.
US INDUST CHEMCLS CO RESRCH DV	OHD072865074	.T.
WASHINGTON STATE UNIVERSITY	WAD041485301	.T.

9488.00-6